

REMARKS

Claims 1-25 and 89-91 were elected by Applicants for prosecution. Claims 26-88 are presently withdrawn from consideration. Applicants request the following statements concerning the Office action be considered in the evaluation of the patentability of claims 1-25 and 89-91 presently pending in this application.

The present invention provides indentation patterns in a microwave packaging material. The indentation patterns may be scored, impressed, or molded into the packaging material. They are narrow in width and depth, for example, about 0.5 mm in each dimension. They can be more or less. The indentation patterns can improve the performance of the packaging material for microwave cooking in several ways. First, the indentation patterns can direct moisture migration underneath a food product, which can help augment surface crisping or counteract drying. Second, the indentation patterns can provide a small insulating air space between the packaging material and the microwave oven floor, which can help insulate the package from the oven floor if the indentations protrude from the bottom of the packaging material. Third, the indentation patterns can similarly provide a gap between the packaging material and the microwave oven floor, which can enhance the propagation of microwave energy underneath the food product to augment heating of the food product.

Claim Rejections Under 35 U.S.C. § 103(a) - Obviousness

The Office action rejects Claims 1-25 and 89-91 as obvious in view of either U.S. Patent No. 6,204,492 to Zeng et al. or U.S. Patent No. 5,698,127 to Lai et al. in combination with either U.S. Patent No. 5,217,768 to Walters et al. or U.S. Patent No. 5,310,977 to Stenkamp et al. Applicants respectfully disagree for at least the following reasons.

The Office action is correct in its description of Zeng et al. and Lai et al. as disclosing several exemplary types of microwave packaging material that have microwave interactive structures that augment the heating ability of the microwave energy in a microwave oven. One type of microwave interactive structure is a susceptor film that generates radiant heat upon impingement by microwave energy. Other microwave interactive structures disclosed include microwave energy reflective structures, microwave energy focusing structures, and microwave energy distributing structures. Notably, neither Zeng et al. nor Lai et al. discloses or suggests any structures for the purpose of venting moisture generated by a food product being cooked in the packaging material therein. Neither Zeng et al. nor Lai et al. discloses or suggests any structures for insulating the packaging material therein from the microwave oven or suggests any reason for doing so. Further, neither Zeng et al. nor Lai et al. discloses

or suggests any structures for providing increased microwave propagation around the packaging material or food product.

Walters et al. discloses a susceptor composite formed of several layers of material heat sealed together. For example, rather than adhering a susceptor film to a substrate with adhesive, which is standard practice, Walters et al. provides for heat sealing the susceptor film to the substrate to form a package material. In one embodiment, Walters et al. describes heat sealing the susceptor film to the substrate in only about a margin or in patterns creating closed cells between the susceptor film and the substrate. (See col. 7, l. 52 – col. 9, l. 4.) Walters et al. notes that thin “air gaps” are formed in the cells between the substrate and the susceptor film during the heat sealing process. (See col. 7, ll. 59-64.) In one embodiment of the present invention an “air gap” may be formed between the microwave packaging material and the oven floor if the indentations protrude from the bottom of the packaging material.

The air gaps in Walters et al. are described as providing an insulating layer to protect the substrate from the heat of the susceptor during cooking to prevent the disintegration of any packaging designs or lettering. (See col. 8, ll. 3-9 & col. 9, l. 63 - col. 10, l. 3.) It is significant to note that Walters et al. does not teach or suggest any insulating benefit from the air gaps that would enhance the heating of the food as contemplated by the indentation patterns of the present invention. Further, Walters et al. does not teach or suggest that the air gaps disclosed provide any venting function. This is a significant function achieved by the indentation patterns of the present invention. Walters et al. likewise does not teach or suggest that the air gaps allow for any enhanced microwave energy propagation as the indentation patterns of the present invention provide.

Additionally, the structures disclosed in Walters et al. are significantly different from the indentation structures of the present invention. While the terminology used in Walters et al. is the same as in the present application, the “air gaps” created in Walters et al. are pockets or cells between a susceptor film and a substrate. In contrast, the microwave interactive layer and substrate of the present invention form a uniformly composite structure—there are no gaps between layers. Further, the indentation patterns of the present invention are impressed or scored in the entire composite structure of the packaging material—there is no separation between layers.

Steinkamp et al. discloses a “pleated” susceptor defining ridge apices and linear groove nadirs. Steinkamp suggests that the grooves allow grease and steam to flow out from between the food product and the susceptor. “Pleated” is defined by Steinkamp et al. as a “general configuration achieved by folding something back upon itself in accordion-like

fashion." (See col. 4, ll. 41-43; emphasis added.) Steinkamp et al. describes the pleats as having large face sizes between 0.25 and .5 inches. (See col. 7, ll. 21-23 & col. 8, ll. 41-44.) The apexes of the pleats are further separated by distances of between 0.1 cm and 0.25 cm. Id. This would suggest a depth of the pleats on the order of between about 0.6 cm and 1.25 cm, which is significantly larger in depth than the indentation patterns contemplated by the present invention. This also suggests that the surface area of the susceptor actually in contact with the food product is very minimal and contact likely occurs along the apexes.

The pleated susceptor structure of Steinkamp et al. is significantly different from the microwave packaging material with indentation patterns of the present invention. The pleated susceptor of Steinkamp et al. provides very little contact between the food product and the susceptor. It is well known that the rate of heat transfer falls with the square of the distance between the heat source and the item to be heated. This limits the browning and crisping effect of the susceptor on the food product. In contrast, the present invention provides significant contact between the surface area of the susceptor, or other microwave interactive material, and the food product, as the indentation patterns are formed by scoring or compressing the packaging material. This allows for close to maximum effect of the microwave interactive structures on the food product. One of the novel discoveries of the present invention is that effective venting can be provided through the use of relatively small indentation channels in the packaging substrate, which are not found in the prior art of record.

Further, the present invention provides an economy of manufacturing not found in the pleated susceptor of Steinkamp et al. As described in the specification of the present application, the indentation patterns can be impressed into the packaging material at the same time the packaging material is die cut into the desire shape, using the same die stamp. In an alternative embodiment described, the indentation patterns can similarly be provided in a standard molding process, for example, when a flat sheet of packaging material is transformed into a pan. No additional cost or steps are incurred in the manufacturing process than presently required. In contrast, to provide the pleated susceptor of Steinkamp et al. the base packaging material must first be scored, then die cut, and finally folded—a three-step process in comparison to the single step of the present invention.

The Office action states no specific finding of understanding or motivation in Zeng et al. or Lai et al. that venting, insulating the packaging material from the microwave oven, or providing additional opportunity for microwave propagation about the packaging material with various microwave interactive structures would be desirable. Additionally, the Office action points to no suggestion of the benefits of venting, insulation of the food product or

packaging material for increased heating, or increased microwave propagation in Walters et al., much less a suggestion that its features could be provided in combination with a variety of microwave interactive materials. “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also *suggests* the desirability of the combination.” M.P.E.P. § 2143.01, *citing In re Mills* 916 F.2d 680 (Fed. Cir. 1990) (underline in original, italics supplied). Further, without a specific finding as to the principle or specific understanding within the knowledge of a skilled artisan that would have motivated the skilled artisan to make the claimed invention, there is no foundation for an obviousness rejection. M.P.E.P. § 2143.01; *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999). Therefore, Applicants contend that the obviousness rejection is inappropriate with regard to the combination of Zeng et al. or Lai et al. with Walters et al.

Furthermore, other than providing a substrate in combination with a susceptor layer, none of the structures disclosed in Walters et al. is an indentation pattern of the present invention as described in the present application. “To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” M.P.E.P. § 2143.03 *citing In re Royka*, 490 F.2d 981 (CCPA 1974). The combination of either Zeng et al. or Lai et al. with Steinkamp et al. does not teach or suggest the each of the limitations provided in the claims to the present invention at least because there are no indentations in a laminate packaging material in the cited prior art. Therefore, the present invention is not obvious in view of these asserted references.

Similar to the discussion above with respect to Walters et al., the Office action points to no suggestion in Steinkamp et al. of the benefits of insulation of the food product or packaging material for increased heating, or increased microwave propagation. Steinkamp et al. also does not suggest that the features it does disclose could be provided in combination with a variety of microwave interactive structures. Further, none of the structures disclosed in Steinkamp et al. is an indentation pattern of the type of the present invention as described in the present application. Therefore, Applicants assert the present invention is not obvious in view of Zeng et al. or Lai et al. in combination with Steinkamp et al. because the references in combination do not disclose or teach the claimed structures of the present invention. The obviousness rejection is further inappropriate as Stenkamp et al. provides no specific motivation for use of pleating with non-susceptor microwave interactive structures and exhibits no understanding of the insulating and microwave propagation enhancing benefits of the present invention. For at least these reasons, Applicants request the

withdrawal of the of the rejection to the pending claims on the grounds that the claimed invention is obvious.

Conclusion

In view of the remarks above, Applicants believe the pending claims in the application describe a novel and not obvious invention when considered in comparison to the references cited in the Office action. Applicants believe the application is in condition for allowance and respectfully requests consideration of and speedy issuance of the pending claims. Applicants invite the examiner to contact undersigned counsel to discuss these issues further if the examiner would find such a discussion beneficial.

Respectfully submitted this 11th day of June 2003.



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